

## **Supporting Information**

Solubility isotherms of gypsum, hemihydrate and anhydrite in the ternary systems  $\text{CaSO}_4+\text{MSO}_4+\text{H}_2\text{O}$   
(M = Mn, Co, Ni, Cu, Zn) at  $T = (298.1 \text{ K to } 373.1) \text{ K}$

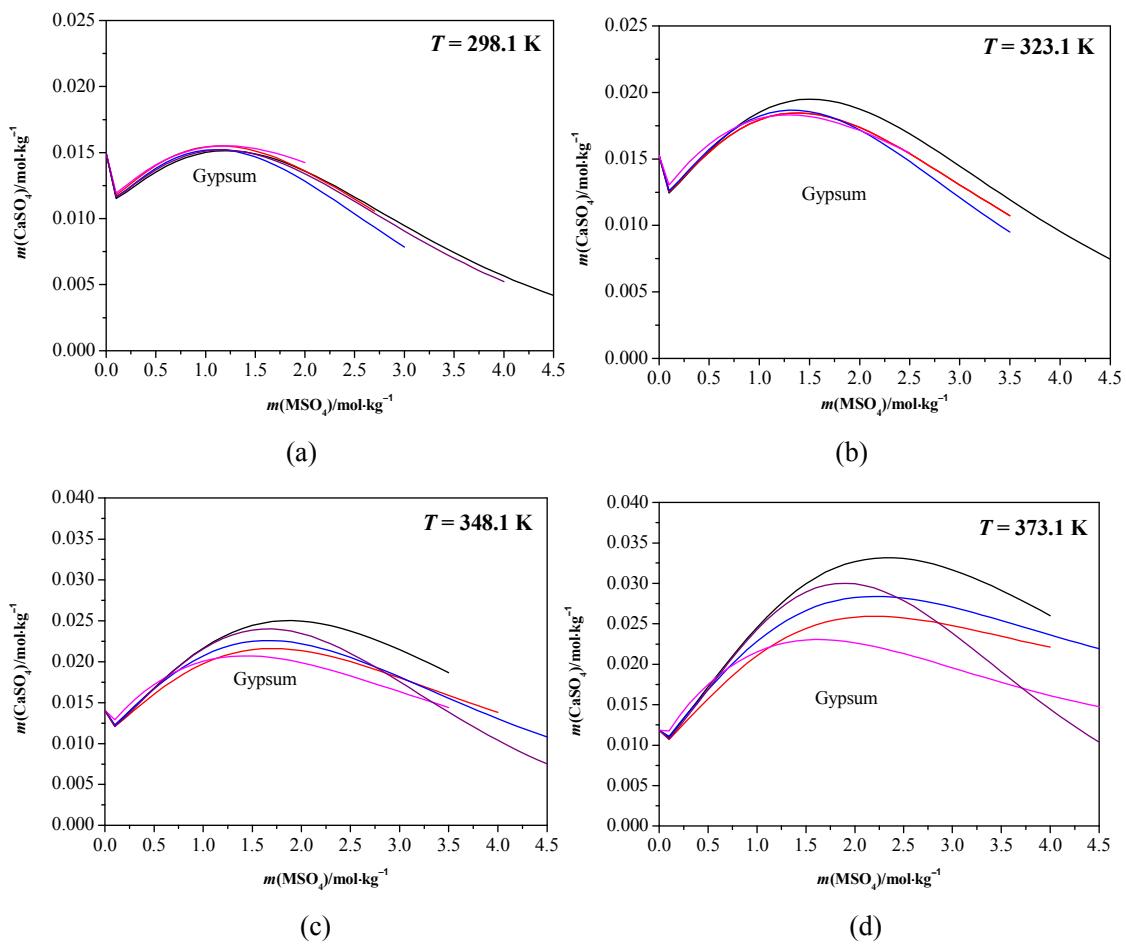
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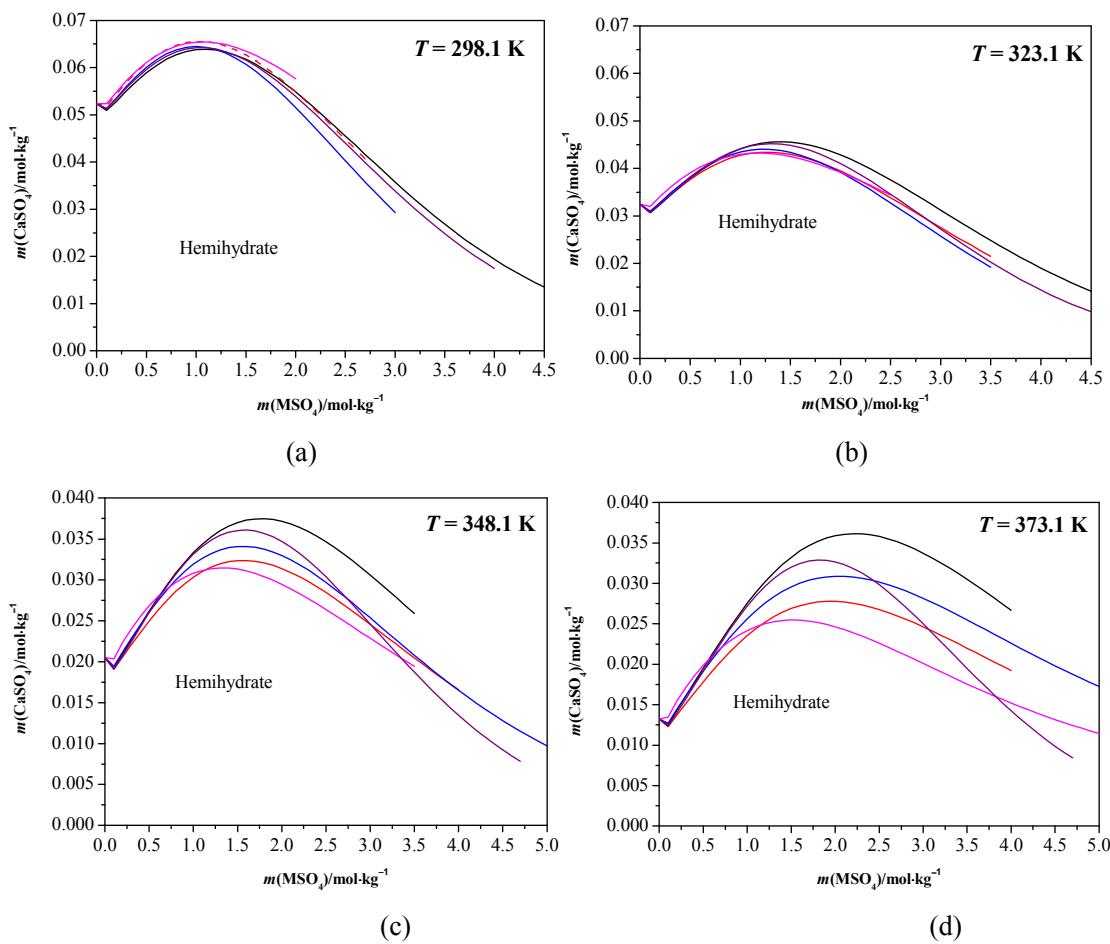
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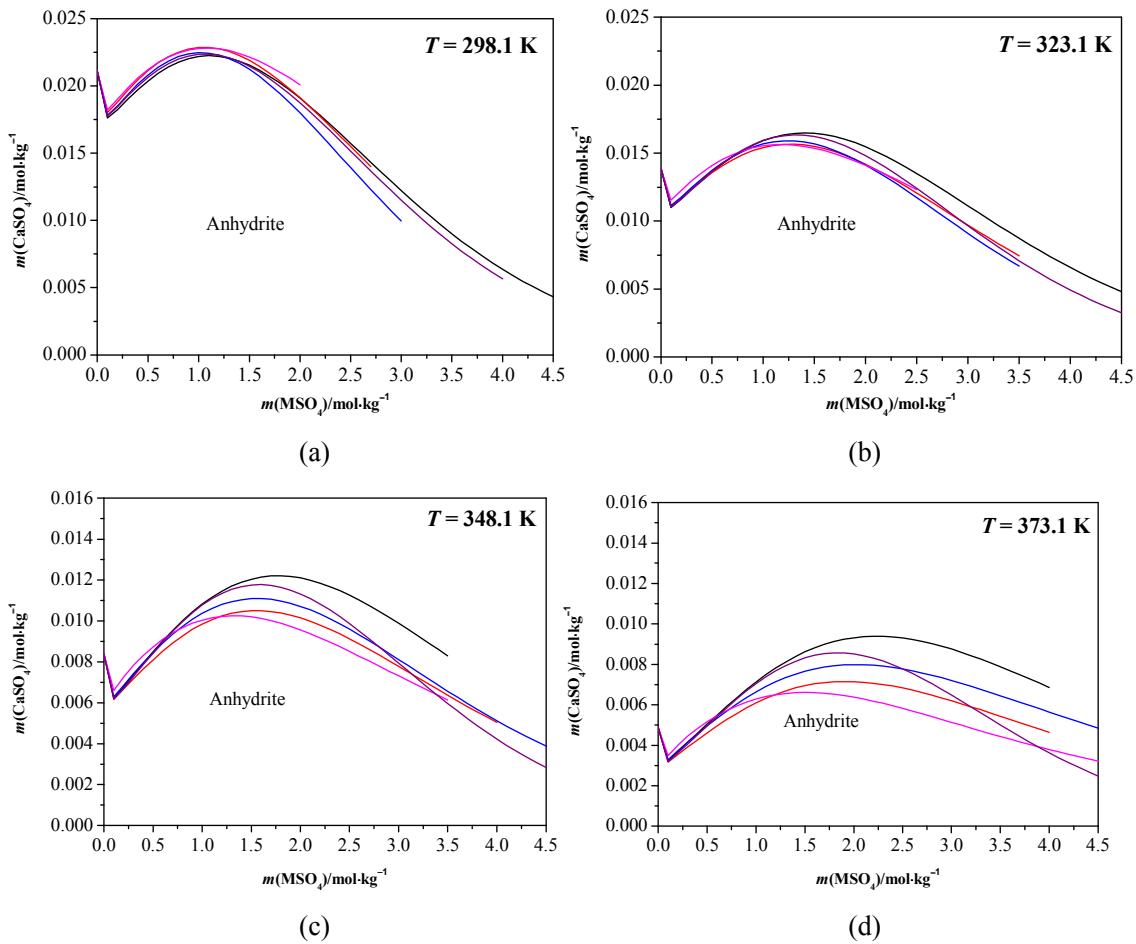
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**Figure S1.** Predicted solubility isotherms of gypsum in the systems  $\text{CaSO}_4\text{--MSO}_4\text{--H}_2\text{O}$  ( $M = \text{Mn, Co, Ni, Cu, Zn}$ ). Black: Mn; Red: Co; Blue: Ni; Magenta: Cu; Purple: Zn. a:  $T = 298.1 \text{ K}$ ; b:  $T = 323.1 \text{ K}$ ; c:  $T = 348.1 \text{ K}$ ; d:  $T = 373.1 \text{ K}$ .



**Figure S2.** Predicted solubility isotherms of hemihydrate in the systems  $\text{CaSO}_4\text{--MSO}_4\text{--H}_2\text{O}$  ( $M = \text{Mn, Co, Ni, Cu, Zn}$ ). Black: Mn; Red: Co; Blue: Ni; Magenta: Cu; Purple: Zn. a:  $T = 298.1 \text{ K}$ ; b:  $T = 323.1 \text{ K}$ ; c:  $T = 348.1 \text{ K}$ ; d:  $T = 373.1 \text{ K}$ .



**Figure S3.** Predicted solubility isotherms of anhydrite in the systems  $\text{CaSO}_4\text{-MSO}_4\text{-H}_2\text{O}$  ( $\text{M} = \text{Mn, Co, Ni, Cu, Zn}$ ). Black: Mn; Red: Co; Blue: Ni; Magenta: Cu; Purple: Zn. a:  $T = 298.1 \text{ K}$ ; b:  $T = 323.1 \text{ K}$ ; c:  $T = 348.1 \text{ K}$ ; d:  $T = 373.1 \text{ K}$ .